

### 3.3 FOWLING GUT SYSTEM STUDY SITES

#### 3.3.1 Qualitative Site Description

Physical description. This is a complex site (Figure 8) covering 21 ha and consisting of many parallel ridges and swales, emergent freshwater marshes, and emergent estuarine marshes adjacent to Fowling Gut. Because of this complexity we have divided the site into two sections (estuarine and palustrine). The estuarine portion consists of the western side of the site which is composed of estuarine emergent marshes associated with Fowling Gut. The palustrine portion consists of the eastern side of the site and is dominated by freshwater palustrine wetlands and pine ridges. The site has been altered on all four sides by development and the encroachment of houses, filled areas, and borrow pits.

Definitions. The WIA consists of the site as outlined by the EPA. The basin for the estuarine portion includes Fowling Gut from its origin to Mire Pond. The basin for the palustrine portion includes the estuarine portion and Fowling Gut, although it should be noted that surface drainage from the palustrine

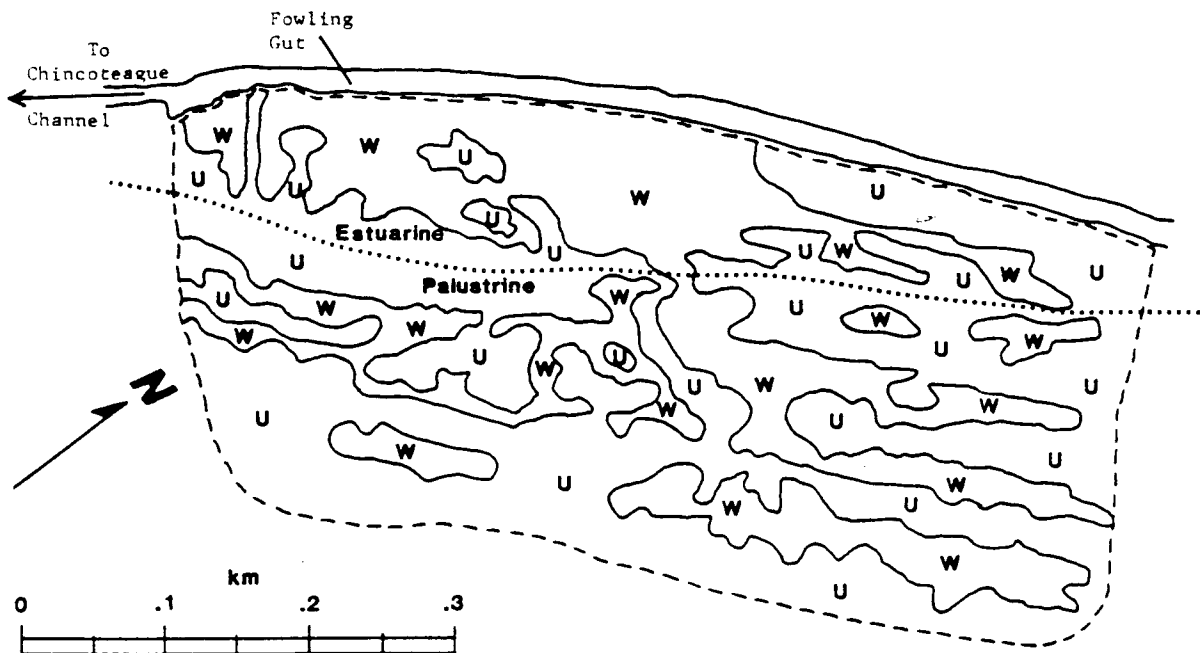


Figure 8. Map of Fowling Gut System WIA showing wetland (w) and upland (u) areas. Major outlet is indicated by arrow that depicts the direction of water movement from the site. Estuarine and palustrine portions of the WIA are separated by dotted line.

portion occurs only during wet, rainy periods. The sub-watershed for both sites consists of the forested ridges and developed homesites within close proximity to the wetland impact areas and basins.

Qualitative vegetation description. The emergent estuarine wetlands in the estuarine portion are dominated by Spartina patens, Distichlis spicata, Iva, Scirpus robustus and Spartina alterniflora. Phragmites dominates along the northwestern corner of the site and along the northern edge of the site where considerable disruption and filling has occurred. The wetlands on the palustrine portion are dominated by Hibiscus, Kosteletzkya, Typha and Spartina patens in certain areas. Walter's millet (Echinochloa walteri) dominates a small marsh at the northern end of the site. The borrow pit ponds which lie along the eastern side of the site are surrounded by Typha, Peltandra, and red maples.

Wetland classification. The forested ridge areas in both sites are upland communities. The estuarine wetlands are estuarine emergent. The palustrine wetlands are palustrine emergent.

Substrate, water salinity. Substrates underlying these areas are largely sandy or sandy loam soils with small amounts of accumulated organic matter near the surface ( 15 cm). Water adjacent to and in Fowling Gut has a salinity of approximately 10-20 ppt depending upon the amount of recent rainfall. Water in the interior areas of the palustrine portion has a salinity of from 1 to 4 ppt.

Wildlife use. There are numerous signs (footprints, feces, etc.) of use by waterfowl including black ducks and wood ducks and wading birds at both sites. There is much evidence of both juvenile and salt marsh fishes in the ponds and wetlands adjacent to Fowling Gut. Most areas of the site are apparently utilized by raccoons and other small mammals.

Hydrologic functions. The estuarine portion experiences limited, daily tidal exchange with Fowling Gut. During wet periods drainage is principally out of the wetland and southeast along Fowling Gut. The palustrine portion, under dry conditions, drains internally into the water table aquifer. During wet, rainy periods there are several small surface outlets to the estuarine portion and ultimately to Fowling Gut. Because of these characteristics the palustrine portion probably has a very high groundwater recharge potential. Both portions of the site probably have high flood storage and nutrient retention potential.

### 3.3.2 Adamus and Stockwell Evaluations: Fowling Gut System - Estuarine Portion

#### Summary Sheet D

This form is the appropriate place for recording the ratings that result from use of the interpretation procedures and keys in Sections 2.1.2, and 2.2.2. As each analysis is completed, enter its rating (high, moderate, or low; or A, B, or C) in the relevant box until all boxes for functions of interest are filled.

Begin by labeling the context of the analysis (pre- or post- construction, with or without mitigation, name of basin and WIA). Then enter the data, using the numbered footnotes to help locate the associated analyses. For the evaluation of each function's Effectiveness, enter whichever rating is higher--that for the basin or that for the WIA. The evaluation of the impact vector is optional.

BASIN _____		WIA _____		PROJECT _____	
EVALUATION TIME FRAME (PRE/POST) _____		MITIGATION PLAN # _____			
FUNCTION	EFFECTIVENESS <sup>1</sup>	OPPORTUNITY <sup>2</sup>	FUNCTIONAL RATING <sup>3</sup>	SIGNIFICANCE <sup>4</sup>	FUNCTIONAL SIGNIFICANCE <sup>5</sup>
GROUND WATER RECHARGE <sup>6</sup>	low	moderate	low	moderate	low
GROUND WATER DISCHARGE <sup>6</sup>	low		low	high	low
FLOOD STORAGE <sup>7</sup>	high	low	moderate	high	high
SHORELINE ANCHORING <sup>8</sup>	high	low	moderate	moderate	moderate
SEDIMENT TRAPPING <sup>9</sup>	moderate	high	high	high	very high
NUTRIENT RETENTION LONG-TERM <sup>10</sup>	moderate	high	high	high	very high
SEASONAL <sup>11</sup>	moderate	high	high		very high
FOOD CHAIN SUPPORT DOWNSTREAM <sup>12</sup>	moderate		moderate	moderate	moderate
IN-BASIN <sup>13</sup>	moderate		moderate		moderate
FISHERY HABITAT WARMWATER <sup>14</sup>	low		low	moderate	low
COLDWATER <sup>15</sup>					
COLDW. RIVERINE <sup>16</sup>					
ANADROMOUS BY SPECIES <sup>17</sup> Blue Fish, Hd. * SPECIES <sup>18</sup> Cl. Win Fl. *	moderate		moderate		moderate
WILDLIFE HABITAT GENERAL DIVERSITY <sup>19</sup>	summer moderate winter		moderate	moderate	moderate
WATERFOWL GP. <sup>20</sup> 1	low	low	low		low
WATERFOWL GP. <sup>21</sup> 2	low	low	low		low
SPECIES <sup>22</sup> Common Egret	high		high		high
SPECIES <sup>23</sup>					
SPECIES <sup>24</sup>					
ACTIVE RECREATION <sup>25</sup> SWIMMING	low		low	moderate	low
BOAT LAUNCHING	low		low		low
POWER BOATING	low		low		low
CANOEING	low		low		low
SAILING	low		low		low
PASSIVE RECREATION AND HERITAGE <sup>26</sup>				moderate	moderate
IMPACT VECTOR RATING <sup>27</sup>					

#### FOOTNOTES

These entries will be based on analyses in the following parts of Volume II (numbers correspond to footnotes above):

- 1-Forms A, A1 (p. 6, 51); 2-Section 2.1.2.2. (p. 97); 3-Forms B, B1 (p. 38, 54); 4-Section 2.1.2.2. (p. 97); 5-Interpretation key in Section 2.1.2.1. p. 57; 6-p. 59; 7-p. 60; 8-p. 62; 9-p. 64; 10-p. 67; 11-p. 67; 12-p. 69; 13-p. 71; 14-p. 73; 15-p. 75; 16-p. 79; 17-p. 80; 18-p. 84; 19-p. 91; 20-p. 92; 21-p. 93.

\* Blue Fish, Hard Clam, Winter Flounder

# Fowling Gut System - Estuarine Portion

## Response Sheet A1

### THRESHOLD ANALYSIS: FUNCTIONAL OPPORTUNITY AND EFFECTIVENESS

This sheet is the appropriate place for recording the responses to corresponding questions in Form A. A "yes" (Y) or "no" (N) response must be circled for all parts of each question, even when the response seems obvious. This response sheet has two major columns--"WIA" and "BASIN", and within each of these, three subcolumns entitled "I", "W", and "D", which address, when relevant, the seasonal changes in some of the predictors, as follows:

I column responses are those addressing either (a) the average annual condition, or (b) the condition intermediate between the wettest and driest annual conditions (e.g., late June in most Prairie pothole wetlands), or (c) the condition of maximum annual standing crop of wetland plants, or (d) if tidal, the average daily mid-tide condition.

W column responses are those addressing what the area would look like (a) during the wettest time of an average year, or (b) if the area is tidal, what it would look like during an average daily high tide (flooded) condition.

D column responses are those addressing what the area would look like during either the driest time of the year (questions pertaining to hydrology) or if the question pertains to vegetation, then during the dormant time of the year. If the area is tidal, "D" refers to its daily low tide (exposed) condition.

For example, question 2.1.1 should first be asked and answered in the context of the WIA's (wetland impact area's) average condition, then in terms of its wettest condition, then the basin's average condition, and finally the basin's wettest condition. This should then be repeated for question 2.1.2. Because no Y/N choice is given in either "D" column, the area's dry or dormant condition need not be evaluated for this question. Similarly, some questions will require responses only for the WIA or basin, but not both.

Q. #	WIA			BASIN			
	I	W	D	I	W	D	
<u>Office-type Data</u>							
1.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	See comment form
1.2	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	
1.3	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	
1.3.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	

Fowling Gut System - Estuarine Portion

Q. #	WIA			BASIN					
	R	M	D	R	M	D			
2.1.1	Y	N	Y	Y	Y	Y	see comment form		
2.1.2	Y	N	Y	Y	Y	Y			
2.2.1	Y	N	Y	Y	Y	Y			
2.2.2	Y	N	Y	Y	Y	Y			
3.1				Y	Y				
3.2				Y	Y				
4.1	Y	N							
4.2	Y	N							
5.1				Y	Y		see comment form		
5.2				Y	Y				
6.1		Y	N						
6.2		Y	N						
7.1				Y	N		see comment form		
7.2				Y	N				
8.1				Y	N		see comment form		
8.2				Y	N				
9.1				Y	N		see comment form		
9.2				Y	N				
10.1	Y	N							
10.2	Y	N	NA						
10.3	Y	N							
10.4	Y	N							
11.1	Y	N							
11.2	Y	N							
12.1		Y	N						
12.2		Y	N						
13.1				Y	N	NA			
13.2				Y	N	NA			
14.	Y	N		Y	N		see comment form		
15.1	Y	N							
15.2	Y	N							
15.3	Y	N							
15.4	Y	N							
15.5	Y	N							
15.6	Y	N							
15.7	Y	N							
16.	Y	N							
17.1	Y	N							
17.2	Y	N							
18.	Y	N							
19.	Y	N							
20.				Y	N				
21.1	Y	N							
21.2	Y	N							
21.3	Y	N							
21.4	Y	N							
21.5	Y	N							
21.6	Y	N							
Field-type Data									
22.1	Y	N	Y	Y	N	Y			
22.1.1	Y	N	Y	Y	N	Y			
22.1.2	Y	N	Y	Y	N	Y			
22.1.3	Y	N	Y	Y	N	Y			
22.1.4	Y	N	Y	Y	N	Y			
22.1.5	Y	N	Y	Y	N	Y			
22.2	Y	N	Y	Y	N	Y			
22.2.1	Y	N	Y	Y	N	Y			

Fowling Gut System - Estuarine Portion

Q. #	HIA			BASIN					
	R	M	D	R	M	D			
22.2.2	Y	N		Y	N				
22.2.3	Y	N		Y	N				
22.2.4	Y	N		Y	N				
22.2.5	Y	N		Y	N				
22.3	Y	N		Y	N				
22.3.1	Y	N		Y	N				
22.3.2	Y	N		Y	N				
22.3.3	Y	N		Y	N				
22.3.4	Y	N		Y	N				
22.4	Y	N		Y	N				
22.4.1	Y	N		Y	N				
22.4.2	Y	N		Y	N				
22.5	Y	N		Y	N				
22.6	Y	N		Y	N				
23.1	Y	N		Y	N				
23.2	Y	N		Y	N				
23.3	Y	N		Y	N				
23.4	Y	N		Y	N				
23.5	Y	N		Y	N				
23.6	Y	N		Y	N				
23.7	Y	N		Y	N				
23.8	Y	N		Y	N				
23.9	Y	N		Y	N				
24.1	Y	N		Y	N				
24.2	Y	N		Y	N				
24.3	Y	N		Y	N				
24.4	Y	N		Y	N				
24.5	Y	N		Y	N				
24.6	Y	N		Y	N				
25.1	Y	N							
25.2	Y	N	NA						
25.3	Y	N							
26.1			Y			Y			
26.2			Y			Y			
26.3			Y			Y			
26.4			Y			Y			
26.5			Y			Y			
26.6			Y			Y			
26.7			Y			Y			
26.8			Y			Y			
26.9			Y			Y			
26.10			Y			Y			
26.11			Y			Y			
27.1		Y			Y		See Comment Form		
27.2		Y			Y				
28.1				Y					
28.2				Y					
29.				Y					
30.1	Y	N							
30.2	Y	N							
31.1		Y	N						
31.2		Y	N						
32.1	Y	N		Y	N				
32.2	Y	N		Y	N				
32.3	Y	N		Y	N				
32.4	Y	N		Y	N				
32.5	Y	N		Y	N				
32.6	Y	N		Y	N				
32.7	Y	N		Y	N				
32.8	Y	N		Y	N				

Fowling Gut System - Estuarine Portion

Q. #	MTA			BASIN					
	R	M	D	R	M	D			
33.1	Y	Y	Y	Y	Y	Y			
33.2	Y	Y	Y	Y	Y	Y			
33.3	Y	Y	Y	Y	Y	Y			
33.4	Y	Y	Y	Y	Y	Y			
33.5	Y	Y	Y	Y	Y	Y			
33.6	Y	Y	Y	Y	Y	Y			
33.7	Y	Y	Y	Y	Y	Y			
33.8	Y	Y	Y	Y	Y	Y			
34.1	Y	Y	Y	Y	Y	Y			
34.2	Y	Y	Y	Y	Y	Y			
34.3	Y	Y	Y	Y	Y	Y			
34.4	Y	Y	Y	Y	Y	Y			
34.5	Y	Y	Y	Y	Y	Y			
34.6	Y	Y	Y	Y	Y	Y			
34.7	Y	Y	Y	Y	Y	Y			
34.8	Y	Y	Y	Y	Y	Y			
35.1	Y	Y	Y	Y	Y	Y			
35.2.1				Y	Y	Y			
35.2.2				Y	Y	Y			
35.2.3				Y	Y	Y			
36.	Y	Y	Y	Y	Y	Y			
37.1	Y	Y	Y						
37.2	Y	Y	Y						
38.1	Y	Y	Y	Y	Y	Y			
38.2	Y	Y	Y	Y	Y	Y			
39.1	Y	Y	Y						
39.2	Y	Y	Y						
39.3	Y	Y	Y						
39.4	Y	Y	Y						
39.5	Y	Y	Y						
39.6	Y	Y	Y						
40.	Y	Y	Y						
41.1	Y	Y	Y	Y	Y	Y			
41.1.1	Y	Y	Y	Y	Y	Y			
41.1.2	Y	Y	Y	Y	Y	Y			
41.1.3	Y	Y	Y	Y	Y	Y			
41.2	Y	Y	Y	Y	Y	Y			
41.2.1	Y	Y	Y	Y	Y	Y			
41.2.2	Y	Y	Y	Y	Y	Y			
41.2.3	Y	Y	Y	Y	Y	Y			
41.3	Y	Y	Y	Y	Y	Y			
41.3.1	Y	Y	Y	Y	Y	Y			
41.3.2	Y	Y	Y	Y	Y	Y			
41.3.3	Y	Y	Y	Y	Y	Y			
41.4	Y	Y	Y	Y	Y	Y			
42.1	Y	Y	Y	Y	Y	Y			
42.2	Y	Y	Y	Y	Y	Y			
42.3	Y	Y	Y	Y	Y	Y			
43.	Y	Y	Y	Y	Y	Y			
44.1	Y	Y	Y	Y	Y	Y			
44.2	Y	Y	Y	Y	Y	Y			
45.1	Y	Y	Y						
45.2	Y	Y	Y						
46.1	Y	Y	Y						
46.2	Y	Y	Y						
46.3	Y	Y	Y						
46.4	Y	Y	Y						
47.1	Y	Y	Y						
47.2	Y	Y	Y						
48.1	Y	Y	Y						
48.2	Y	Y	Y						

See Comment form  
See Comment form

Fowling Gut System - Estuarine Portion

Q. #	WTA	W	D	BASIN	W	D
49.1				Y		
49.2				Y		
50.	N	N	N			
51.		N				
<u>Detailed Data</u>						
52.1.1	Y	N	NA			
52.1.2	Y	N				
52.2.1	N					
52.2.2	Y					
53.1	Y	N	NA			
53.2	Y	N				
54.1	Y	N	NA			
54.2	Y	N				
55.	Y	N	NA	Y		
56.			NA			
57.1	Y	N				
57.2	Y	N				
57.3	Y	N	NA			
57.4	Y	N				
58.1	Y	N				
58.2	Y	N	NA			
58.3	Y	N				
58.4	Y	N				
59.1				Y	N	NA
59.2				Y	N	
59.3				Y	N	
60.1				Y	N	NA
60.2				Y	N	
60.3				Y	N	
61.1	Y	N	NA			
61.2	Y	N				
62.	Y	N	NA			
63.1				NA	Y	N
63.2				NA	Y	N
64.				NA	Y	N
65.	N					
66.1	NA	Y	N	NA	Y	N
66.2	NA	Y	N	NA	Y	N
67.1	NA	Y	N	NA	Y	N
67.2	NA	Y	N	NA	Y	N
68.1	Y	N	NA	NA	Y	N
68.2	Y	N			Y	N
<u>Derived Responses</u>						
69.1	Y	N				
69.2	Y	N				
70.1	Y	N				
70.2	Y	N				
71.1	Y	N				
71.2	Y	N				
72.1	Y	N				
72.2	Y	N				
73.1	Y	N				
73.2	Y	N				
74.1	Y	N				
74.2	Y	N				
75.1	Y	N				
75.2	Y	N				

After responses to all possible questions (Form A) have been recorded above, turn to Form 8 (page 38). You will( as an option) return to this sheet (in Section 2.1.2) to interpret the above responses.



# Fowling Gut System - Estuarine Portion

## Response Sheet B1

### THRESHOLD ANALYSIS: SIGNIFICANCE

This sheet is the appropriate place for recording the responses to the corresponding questions in Form B. Circle Y (yes) or N (no), being careful to note that the order of Y and N below frequently reverses.

#### General

- 1.1 ☐ N ☐ Y
- 1.2 ☐ N ☐ Y
- 1.3 ☐ N ☐ Y
- 1.4 ☐ N ☐ Y
- 1.5 ☐ N ☐ Y
- 1.6 ☐ N ☐ Y
- 2. ☐ Y ☐ N

#### Recharge

- 3. ☐ Y ☐ N
- 4. ☐ Y ☐ N
- 5. ☐ Y ☐ N
- 6. ☐ Y ☐ N
- 7. ☐ Y ☐ N
- 8. ☐ Y ☐ N
- 9. ☐ Y ☐ N
- 10. ☐ N ☐ Y

#### Discharge

- 11. ☐ Y ☐ N
- 12. ☐ Y ☐ N
- 13. ☐ Y ☐ N
- 14. ☐ Y ☐ N
- 15. ☐ N ☐ Y

#### Flood

##### Storage

- 16. ☐ Y ☐ N
- 17. ☐ Y ☐ N See Comment form
- 18. ☐ Y ☐ N
- 19. ☐ Y ☐ N
- 20. ☐ Y ☐ N
- 21. ☐ Y ☐ N See Comment form
- 22. ☐ N ☐ Y

#### Shoreline

##### Anchoring

- 23. ☐ Y ☐ N
- 24. ☐ Y ☐ N
- 25. ☐ Y ☐ N
- 26. ☐ Y ☐ N See Comment form
- 27. ☐ Y ☐ N
- 28. ☐ Y ☐ N
- 29. ☐ N ☐ Y

#### Sediment

##### Trapping

- 30. ☐ Y ☐ N
- 31. ☐ Y ☐ N
- 32. ☐ Y ☐ N
- 33. ☐ Y ☐ N
- 34. ☐ Y ☐ N
- 35. ☐ Y ☐ N
- 36. ☐ N ☐ Y

#### Nutrient

##### Retention

- 37. ☐ Y ☐ N
- 38. ☐ Y ☐ N
- 39. ☐ Y ☐ N
- 40. ☐ Y ☐ N
- 41. ☐ Y ☐ N
- 42. ☐ N ☐ Y

#### Fish Food Chain/

##### Habitat

- 43. ☐ Y ☐ N
- 44. ☐ Y ☐ N
- 45. ☐ Y ☐ N
- 46. ☐ Y ☐ N
- 47. ☐ Y ☐ N
- 48. ☐ Y ☐ N
- 49. ☐ Y ☐ N
- 50. ☐ Y ☐ N
- 51. ☐ Y ☐ N
- 52. ☐ Y ☐ N
- 53. ☐ N ☐ Y

#### Wildlife

##### Habitat

- 54. ☐ Y ☐ N
- 55. ☐ Y ☐ N
- 56. ☐ Y ☐ N
- 57. ☐ Y ☐ N
- 58. ☐ Y ☐ N
- 59. ☐ Y ☐ N
- 60. ☐ N ☐ Y

#### Active

##### Recreation

- 61. ☐ Y ☐ N
- 62. ☐ Y ☐ N
- 63. ☐ Y ☐ N
- 64. ☐ Y ☐ N
- 65. ☐ Y ☐ N
- 66. ☐ Y ☐ N
- 67. ☐ N ☐ Y

#### Passive

- 68. ☐ Y ☐ N
- 69. ☐ Y ☐ N
- 70. ☐ Y ☐ N
- 71. ☐ Y ☐ N
- 72. ☐ Y ☐ N
- 73. ☐ Y ☐ N
- 74. ☐ Y ☐ N
- 75. ☐ Y ☐ N
- 76. ☐ Y ☐ N
- 77. ☐ Y ☐ N
- 78. ☐ N ☐ Y

Form "A" Comments (Fowling Gut System - Estuarine Portion)

WIA	= area inside dashed line answers concerning specific wetland characteristics refer to wetland areas only within WIA (Figure 8)
Basin	= WIA + Fowling Gut from origin to Mire Pond (bordering the Mire Pond fill site and the Mire Pond Scrub-Shrub System)
1.1	At least two confined channels deliver water from 4B to 4A during wet conditions
2.2.1	WIA constricted because most exchange with Fowling Gut occurs through a narrow tidal channel
7	Predictor not used
8	Sub-watershed = all areas that drain into Fowling Gut from origin to Mire Pond
5.2	See site map (Figure 8) and definitions for this site
9	Predictor not used
15	Forested ridges dominate sub-watershed
23	< 30 cm porous organic over sand
27.1-27.2	WIA and Basin are tidal and surrounded by uplands. During flooding the aerial extent of water coverage is only slightly expanded
39.5	Constriction by six or more small culverts between WIA and Chincoteague Bay
39.6	Nonpoint discharge around Fowling Gut

### 3.3.3 Adamus and Stockwell Evaluations: Fowling Gut System - Palustrine Portion

#### Summary Sheet D

This form is the appropriate place for recording the ratings that result from use of the interpretation procedures and keys in Sections 2.1.2, and 2.2.2. As each analysis is completed, enter its rating (high, moderate, or low; or A, B, or C) in the relevant box until all boxes for functions of interest are filled.

Begin by labeling the context of the analysis (pre- or post- construction, with or without mitigation, name of basin and WIA). Then enter the data, using the numbered footnotes to help locate the associated analyses. For the evaluation of each function's Effectiveness, enter whichever rating is higher--that for the basin or that for the WIA. The evaluation of the impact vector is optional.

BASIN _____		WIA _____		PROJECT _____	
EVALUATION TIME FRAME (PRE/POST) _____		MITIGATION PLAN # _____			
FUNCTION	EFFECTIVENESS <sup>1</sup>	OPPORTUNITY <sup>2</sup>	FUNCTIONAL RATING <sup>3</sup>	SIGNIFICANCE <sup>4</sup>	FUNCTIONAL SIGNIFICANCE <sup>5</sup>
GROUND WATER RECHARGE <sup>6</sup>	high	moderate	high	moderate	high
GROUND WATER DISCHARGE <sup>7</sup>	moderate		moderate	high	high
FLOOD STORAGE <sup>8</sup>	high	high	high	high	very high
SHORELINE ANCHORING <sup>9</sup>	high	low	moderate	high	high
SEDIMENT TRAPPING <sup>10</sup>	high	high	high	high	very high
NUTRIENT RETENTION LONG-TERM <sup>11</sup> SEASONAL <sup>12</sup>	high moderate	high high	high high	moderate	high high
FOOD CHAIN SUPPORT DOWNSTREAM <sup>13</sup> IN-BASIN <sup>14</sup>	moderate moderate		moderate moderate	moderate	moderate moderate
FISHERY HABITAT WARMWATER <sup>15</sup> COLDWATER <sup>16</sup> COLDW. RIVERINE <sup>17</sup> ANADROMOUS RIV. SPECIES <sup>18</sup> _____	low		low	moderate	low
WILDLIFE HABITAT GENERAL DIVERSITY <sup>19</sup> WATERFOWL GP. <sup>20</sup> 1 WATERFOWL GP. <sup>21</sup> 2 SPECIES <sup>22</sup> <u>Black Duck</u> SPECIES <sup>23</sup> _____ SPECIES <sup>24</sup> _____	moderate summer low low low	winter low low low	moderate low low low	moderate	moderate low low low
ACTIVE RECREATION <sup>25</sup> SWIMMING BOAT LAUNCHING POWER BOATING CANOEING SAILING	low low low low low		low low low low low	moderate	low low low low low
PASSIVE RECREATION AND HERITAGE <sup>26</sup>				high	high
IMPACT VECTOR RATING <sup>27</sup>					

#### FOOTNOTES

These entries will be based on analyses in the following parts of Volume II (numbers correspond to footnotes above):

- 1-Forms A, A1 (p. 6, 51); 2-Section 2.1.2.2. (p. 97); 3-Forms B, B1 (p. 38, 54); 4-Section 2.1.2.2. (p. 97); 5-Interpretation key in Section 2.1.2.1. p. 57; 6-p. 59; 7-p. 60; 8-p. 62; 9-p. 64; 10-p. 67; 11-p. 67; 12-p. 69; 13-p. 71; 14-p. 73; 15-p. 75; 16-p. 79; 17-p. 80; 18-p. 84; 19-p. 91; 20-p. 92; 21-p. 93.

# Fowling Gut System - Palustrine Portion

## Response Sheet A1

### THRESHOLD ANALYSIS: FUNCTIONAL OPPORTUNITY AND EFFECTIVENESS

This sheet is the appropriate place for recording the responses to corresponding questions in Form A. A "yes" (Y) or "no" (N) response must be circled for all parts of each question, even when the response seems obvious. This response sheet has two major columns--"WIA" and "BASIN", and within each of these, three subcolumns entitled "I", "W", and "D", which address, when relevant, the seasonal changes in some of the predictors, as follows:

I column responses are those addressing either (a) the average annual condition, or (b) the condition intermediate between the wettest and driest annual conditions (e.g., late June in most Prairie pothole wetlands), or (c) the condition of maximum annual standing crop of wetland plants, or (d) if tidal, the average daily mid-tide condition.

W column responses are those addressing what the area would look like (a) during the wettest time of an average year, or (b) if the area is tidal, what it would look like during an average daily high tide (flooded) condition.

D column responses are those addressing what the area would look like during either the driest time of the year (questions pertaining to hydrology) or if the question pertains to vegetation, then during the dormant time of the year. If the area is tidal, "D" refers to its daily low tide (exposed) condition.

For example, question 2.1.1 should first be asked and answered in the context of the WIA's (wetland impact area's) average condition, then in terms of its wettest condition, then the basin's average condition, and finally the basin's wettest condition. This should then be repeated for question 2.1.2. Because no Y/N choice is given in either "D" column, the area's dry or dormant condition need not be evaluated for this question. Similarly, some questions will require responses only for the WIA or basin, but not both.

Q. #	WIA			BASIN		
	I	W	D	I	W	D
<u>Office-type Data</u>						
1.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.2	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.3	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.3.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)

Fowling Gut System - Palustrine Portion

Q. #	WIA			BASIN			
	R	W	D	R	W	D	
2.1.1	Y N	Y N		Y N	Y N		
2.1.2	Y N	Y N		Y N	Y N		
2.2.1	Y N	Y N		Y N	Y N		
2.2.2	Y N	Y N		Y N	Y N		
3.1				Y N			
3.2				Y N			
4.1	Y N						
4.2	Y N						
5.1				Y N			See Comment form
5.2				Y N			
6.1		Y N					
6.2		Y N					
7.1				Y N			See Comment form
7.2				Y N			
8.1				Y N			See Comment form
8.2				Y N			
9.1				Y N			See Comment form
9.2				Y N			
10.1	Y N						
10.2	Y N	N/A					
10.3	Y N						
10.4	Y N						
11.1	Y N						
11.2	Y N						
12.1		Y N	N/A				
12.2		Y N					
13.1				Y N	N/A		
13.2				Y N			
14.	Y N			Y N			
15.1	Y N						
15.2	Y N						
15.3	Y N						
15.4	Y N						
15.5	Y N						
15.6	Y N						
15.7	Y N						
16.	Y N						
17.1	Y N						
17.2	Y N						
18.	Y N						
19.	Y N						
20.				Y N			
21.1	Y N						
21.2	Y N						
21.3	Y N						
21.4	Y N						
21.5	Y N						
21.6	Y N						
Field-type Data							
22.1	Y N	Y N		Y N	Y N		
22.1.1	Y N	Y N		Y N	Y N		
22.1.2	Y N	Y N		Y N	Y N		
22.1.3	Y N	Y N		Y N	Y N		
22.1.4	Y N	Y N		Y N	Y N		
22.1.5	Y N	Y N		Y N	Y N		
22.2	Y N	Y N		Y N	Y N		
22.2.1	Y N	Y N		Y N	Y N		

Fowling Gut System - Palustrine Portion

Q. #	R	MIA	D	BASIN			
22.2.2	Y	Y		Y			
22.2.3	Y	Y		Y			
22.2.4	Y	Y		Y			
22.2.5	Y	Y		Y			
22.3	Y	Y		Y			
22.3.1	Y	Y		Y			
22.3.2	Y	Y		Y			
22.3.3	Y	Y		Y			
22.3.4	Y	Y		Y			
22.4	Y	Y		Y			
22.4.1	Y	Y		Y			
22.4.2	Y	Y		Y			
22.5	Y	Y		Y			
22.6	Y	Y		Y			
23.1	Y			Y	See Comment form		
23.2	Y			Y			
23.3	Y			Y			
23.4	Y			Y			
23.5	Y			Y			
23.6	Y			Y			
23.7	Y			Y			
23.8	Y			Y			
23.9	Y			Y			
24.1	Y	Y	Y				
24.2	Y	Y	Y				
24.3	Y	Y	Y				
24.4	Y	Y	Y				
24.5	Y	Y	Y				
24.6	Y	Y	Y				
25.1	Y						
25.2	Y						
25.3	Y						
26.1			Y	Y			
26.2			Y	Y			
26.3			Y	Y			
26.4			Y	Y			
26.5			Y	Y			
26.6			Y	Y			
26.7			Y	Y			
26.8			Y	Y			
26.9			Y	Y			
26.10			Y	Y			
26.11			Y	Y			
27.1	Y			Y			
27.2	Y			Y			
28.1				Y			
28.2				Y			
29.				Y			
30.1	Y	N					
30.2	Y	N					
31.1							
31.2							
32.1	Y	Y	Y	Y			
32.2	Y	Y	Y	Y			
32.3	Y	Y	Y	Y			
32.4	Y	Y	Y	Y			
32.5	Y	Y	Y	Y			
32.6	Y	Y	Y	Y			
32.7	Y	Y	Y	Y			
32.8	Y	Y	Y	Y			

Fowling Gut System - Palustrine Portion

Q. #	MIA			BASIN					
	R	W	D	R	W	D			
33.1	Y	Y	Y	Y	Y	Y			
33.2	Y	Y	Y	Y	Y	Y			
33.3	Y	Y	Y	Y	Y	Y			
33.4	Y	Y	Y	Y	Y	Y			
33.5	Y	Y	Y	Y	Y	Y			
33.6	Y	Y	Y	Y	Y	Y			
33.7	Y	Y	Y	Y	Y	Y			
33.8	Y	Y	Y	Y	Y	Y			
34.1	Y	Y	Y	Y	Y	Y			
34.2	Y	Y	Y	Y	Y	Y			
34.3	Y	Y	Y	Y	Y	Y			
34.4	Y	Y	Y	Y	Y	Y			
34.5	Y	Y	Y	Y	Y	Y			
34.6	Y	Y	Y	Y	Y	Y			
34.7	Y	Y	Y	Y	Y	Y			
34.8	Y	Y	Y	Y	Y	Y			
35.1	Y	Y		Y					
35.2.1				Y					
35.2.2				Y					
35.2.3				Y					
36.	Y	Y		Y					
37.1		Y	Y						
37.2			Y	Y	Y	Y			
38.1				Y	Y	Y			
38.2	Y	Y	N/A						
39.1	Y	N/A							
39.2	Y								
39.3	Y								
39.4	Y								
39.5	Y			Y					
39.6	Y								
40.	Y	Y	N/A						
41.1				Y	Y	Y			
41.1.1				Y	Y	Y			
41.1.2				Y	Y	Y			
41.1.3				Y	Y	Y			
41.2				Y	Y	Y			
41.2.1				Y	Y	Y			
41.2.2				Y	Y	Y			
41.2.3				Y	Y	Y			
41.3				Y	Y	Y			
41.3.1				Y	Y	Y			
41.3.2				Y	Y	Y			
41.3.3				Y	Y	Y			
41.4				Y	Y	Y			
42.1	Y	Y	Y						
42.2	Y	Y	Y						
42.3	Y	Y	Y						
43.	Y	Y	Y	Y	Y				
44.1				Y	Y				
44.2				Y	Y				
45.1	Y								
45.2	Y								
46.1	Y								
46.2	Y								
46.3	Y								
46.4	Y								
47.1	Y								
47.2	Y								
48.1	Y	Y	Y						
48.2	Y	Y	Y						

Fowling Gut System - Palustrine Portion

Q. #	MTA			BASIN					
	I	W	D	I	W	D			
49.1				Y	N				
49.2				Y	N				
50.	Y	N		Y	N				
51.									
<u>Detailed Data</u>									
52.1.1	Y	N							
52.1.2	Y	N							
52.2.1	Y	N							
52.2.2	Y	N							
53.1	Y	N							
53.2	Y	N							
54.1	Y	N							
54.2	Y	N							
55.	Y	N							
56.									
57.1	Y	N							
57.2	Y	N							
57.3	Y	N							
57.4	Y	N							
58.1	Y	N							
58.2	Y	N							
58.3	Y	N							
58.4	Y	N							
59.1				Y	N				
59.2				Y	N				
59.3				Y	N				
60.1									
60.2				Y	N				
60.3				Y	N				
61.1	Y	N							
61.2	Y	N							
62.	Y	N							
63.1									
63.2									
64.									
65.									
66.1	Y	N							
66.2	Y	N							
67.1	Y	N							
67.2	Y	N							
68.1	Y	N							
68.2	Y	N							
<u>Derived Responses</u>									
69.1	Y	N							
69.2	Y	N							
70.1	Y	N							
70.2	Y	N							
71.1	Y	N							
71.2	Y	N							
72.1	Y	N							
72.2	Y	N							
73.1	Y	N							
73.2	Y	N							
74.1	Y	N							
74.2	Y	N							
75.1	Y	N							
75.2	Y	N							

After responses to all possible questions (Form A) have been recorded above, turn to Form B (page 38). You will( as an option) return to this sheet (in Section 2.1.2) to interpret the above responses.



# Fowling Gut System - Palustrine Portion

## Response Sheet B1

### THRESHOLD ANALYSIS: SIGNIFICANCE

This sheet is the appropriate place for recording the responses to the corresponding questions in Form B. Circle Y (yes) or N (no), being careful to note that the order of Y and N below frequently reverses.

General  
1.1 ☒ Y ☒ N  
1.2 ☒ Y ☒ N  
1.3 ☒ Y ☒ N  
1.4 ☒ Y ☒ N  
1.5 ☒ Y ☒ N  
1.6 ☒ Y ☒ N  
2. ☒ Y ☒ N

Recharge  
3. ☒ Y ☒ N  
4. ☒ Y ☒ N  
5. ☒ Y ☒ N  
6. ☒ Y ☒ N  
7. ☒ Y ☒ N  
8. ☒ Y ☒ N  
9. ☒ Y ☒ N  
10. ☒ N ☒ Y

Discharge  
11. ☒ Y ☒ N  
12. ☒ Y ☒ N  
13. ☒ Y ☒ N  
14. ☒ Y ☒ N  
15. ☒ N ☒ Y

Flood Storage  
16. ☒ Y ☒ N  
17. ☒ Y ☒ N  
18. ☒ Y ☒ N  
19. ☒ Y ☒ N  
20. ☒ Y ☒ N  
21. ☒ Y ☒ N  
22. ☒ N ☒ Y

see comment form

see comment form

Shoreline Anchoring  
23. ☒ Y ☒ N  
24. ☒ Y ☒ N  
25. ☒ Y ☒ N  
26. ☒ Y ☒ N  
27. ☒ Y ☒ N  
28. ☒ Y ☒ N  
29. ☒ N ☒ Y

see comment form

Sediment Trapping  
30. ☒ Y ☒ N  
31. ☒ Y ☒ N  
32. ☒ Y ☒ N  
33. ☒ Y ☒ N  
34. ☒ Y ☒ N  
35. ☒ Y ☒ N  
36. ☒ N ☒ Y

Nutrient Retention  
37. ☒ Y ☒ N  
38. ☒ Y ☒ N  
39. ☒ Y ☒ N  
40. ☒ Y ☒ N  
41. ☒ Y ☒ N  
42. ☒ N ☒ Y

Fish Food Chain/Habitat  
43. ☒ Y ☒ N  
44. ☒ Y ☒ N  
45. ☒ Y ☒ N  
46. ☒ Y ☒ N  
47. ☒ Y ☒ N  
48. ☒ Y ☒ N  
49. ☒ Y ☒ N  
50. ☒ Y ☒ N  
51. ☒ Y ☒ N  
52. ☒ Y ☒ N  
53. ☒ N ☒ Y

Wildlife Habitat  
54. ☒ Y ☒ N  
55. ☒ Y ☒ N  
56. ☒ Y ☒ N  
57. ☒ Y ☒ N  
58. ☒ Y ☒ N  
59. ☒ Y ☒ N  
60. ☒ N ☒ Y

Active Recreation  
61. ☒ Y ☒ N  
62. ☒ Y ☒ N  
63. ☒ Y ☒ N  
64. ☒ Y ☒ N  
65. ☒ Y ☒ N  
66. ☒ Y ☒ N  
67. ☒ N ☒ Y

Passive Recreation  
68. ☒ Y ☒ N  
69. ☒ Y ☒ N  
70. ☒ Y ☒ N  
71. ☒ Y ☒ N  
72. ☒ Y ☒ N  
73. ☒ Y ☒ N  
74. ☒ Y ☒ N  
75. ☒ Y ☒ N  
76. ☒ Y ☒ N  
77. ☒ Y ☒ N  
78. ☒ N ☒ Y

Form "A" Comments (Fowling Gut System - Palustrine Portion)

WIA = Area inside dash line (Figure 8)

Basin = WIA + Fowling Gut from origin to Mire Pond bordering the Mire Pond fill site and the Mire Pond scrub-shrub system

5.2 See site map (Figure 8) and definitions for this site

7 Predictor not used

8 Sub-watershed - Same as estuarine portion except includes developed areas surrounding WIA to east

9 Predictor not used

23 < 15 cm porous organic over sand

39.5 Constriction by six or more small culverts between WIA and Chincoteague Bay

39.6 Nonpoint discharge around Fowling Gut

Form "B" Comments (Fowling Gut System - Estuarine and Palustrine portions and Mixed Hardwoods Swamp)

21 Site E flooded daily, not as valuable for flood storage and desynchronization

17 Ditches from roads and yards drain into site P

17 Ditches from roads and yards drain into mixed hardwoods swamp, Chincoteague Ridge/Swales also

26 For Mixed Hardwoods Swamp Basin = WIA, sediment trapping of little value